REMARKS

Claims 1-4 are now currently pending in the present application. Claims 5-10 have been cancelled in the present response. Claim 1 has been amended, support for which may be found in the present specification, at least, at page 13, line 20 – page 14, line 1. No new matter has been added by way of the present claim amendment.

Examiner Interview

Applicants kindly thank Examiner Wilson and Examiner Tarazano for the courtesy of conducting an Examiner Interview with Applicants' representative on April 6, 2009. During the interview, the Examiners agreed that Seo does not teach all of the limitations of the present invention. That is, Seo does not teach "the hole transporting material in the hole transport layer has a smaller ionization potential than the two host materials in the light emitting layer", as is required by claim 1.

Additionally, during the interview the Examiners provided guidance as to what evidence would be required to support the patentability of the present invention. To that end, Applicants submit herewith a Declaration submitted under Rule 132 for the Examiner's consideration. *See* the discussion below.

Rejection under 35 U.S.C. §102 – Anticipation

Claims 1-4 stand rejected under 35 U.S.C. §102(b) as being anticipated by US 2002/0101154 to Seo et al. (hereinafter "Seo") as evidenced by US 2002/0008233 to Forrest et al. (hereinafter "Forrest") and US 2002/0182441 to Lamansky et al. (hereinafter "Lamansky").[1]

Applicants respectfully traverse.

Seo discloses that a mixed layer of a phosphorescent material, a hole transporting material and an electron transporting material is used as a light emitting layer. Seo discloses CBP as a suitable hole transporting host material for the light emitting layer and BAlq as a suitable electron transporting host material. Seo also discloses NPD as a suitable material for the hole transport layer.

However, Seo does not disclose that "the hole transporting material in the hole transport layer has a smaller ionization potential than the two host materials in the light emitting layer", as required by the present invention.

Seo teaches that an interface occurring between layers influences the life of the element, the carrier movement is disturbed at the interface, and the brightness is lowered due to accumulation of charge. (*See* paragraph [0028]). Therefore, Seo actually discloses a technique for realizing a triplet light emitting element in which an organic interface is removed and function separation is realized in an organic compound film (*See* paragraph [0044]). Seo teaches that since no organic interface exists, the problems arising from an organic interface (i.e., deterioration of the morphology of the organic interface and formation of an impurity layer) can be solved (*See* paragraph [0047]). More specifically, Seo teaches that "the hole transporting material is evaporated on the anode, the electron transporting material is started to evaporate thereon on the midway in the form of co-evaporation to form the mixed region, the evaporation

[1] The Examiner incorrectly lists claims 1-3 in the rejection statement. Claims 1-4 are actually subject to the outstanding rejection.

of the hole transporting material is stopped after the formation of the mixed region, and then, the electron transporting material is evaporated." (*See* paragraph [0049]). As a result, Seo teaches that "the carrier movement is smooth since the organic interface is not formed. Thus, the element life is not adversely affected. Further, the function separation is realized as in the lamination structure, and thus, there is no problem on emission efficiency, either." (*See* paragraph [0050]).

Thus, the Seo methodology prevents the formation of any organic interface and, provides an element in which "one of the two host materials in the light emitting layer" is equal to "the host material in the hole transport layer", as shown in, for example, Fig. 10A. (*See* also paragraph [0049]). This disclosure does not correspond to the limitation that "the hole transporting material in the hole transport layer has a smaller ionization potential than the two host materials in the light emitting layer", as required by the present invention.

Accordingly, for the above reasons, Seo cannot properly anticipate the present invention, within the meaning of 35 U.S.C. 102.

Discussion of Evidence of Unexpected Results

Applicants respectfully submit that the examples in the present specification and the additional experimental data provided herewith demonstrate the unexpectedly superior advantages associated with the presently claimed invention.

Examples in the Present Specification

To support the patentability of the present invention, Applicants direct the Examiner's attention to Examples of the present specification, which includes a comparison between a sample of Seo (Comparative Example 101) and a sample of the present invention (element 103). The Comparative Sample 101 comprises a hole transport layer of NPD, light emitting layer of NPD and BAlq (the host material in the hole transport layer is equal to one of the two host materials in the light emitting layer). Element 103 according to the present invention comprises a hole transport

layer of NPD, light emitting layer of CBP and BAlq (the host material in the hole transporting layer differs from the two host materials in the light emitting layer).

The Examples demonstrate that Seo has an External Quantum Efficiency (EQE) of 4.1%, whereas the present invention has an EQE of 6.5% which is over 1.5 times higher. This is a superior result of the present invention that would have been unexpected from those of ordinary skill in the art.

Declaration Submitted Under Rule 132

Additionally, to further support the patentability of the present invention, Applicants submit herewith a Declaration submitted under Rule 132 by Mr. Toshihiro Ise (hereinafter "the Ise Declaration"). As is apparent from Ise Declaration, the devices of the Additional Examples which satisfy the claimed characteristic "the hole transporting material in the hole transport layer has a small ionization potential than the two host materials in the light emitting layer" yield unexpected superior External Quantum Efficiency being 1.3 times or more than the External Quantum Efficiency of the devices of the Additional Comparative Examples which do not satisfy the claimed characteristic. Such effect cannot be expected by a person of ordinary skill in the art. Further, such superior effects are obtained by the devices using various iridium complexes, and also it is widely applicable to the device using a platinum complex.

Rejection under 35 U.S.C. §103 – Obviousness

Claims 5-10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Seo, as evidenced by Forrest and Lamansky, as applied to claims 1 and 4 above, in view of US 2002/0028329 to Ise et al. (hereinafter "Ise").

Claims 5-10 have been cancelled in the present response. Thus, the outstanding rejection is rendered moot. Withdrawal thereof is respectfully requested.

CONCLUSION

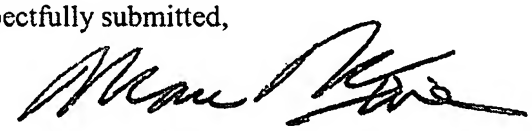
In view of the foregoing, Applicants believe the pending application is in condition for allowance. A Notice of Allowance is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Marc S. Weiner Reg. No. 32,181 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: **June 12, 2009**

Respectfully submitted,



By_____

MTC

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Enclosure: Declaration Under 37 CFR 1.132